Co-designing an SMS service for London's homeless people

Considerations for designers engaging with a vulnerable user group

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Abstract

This paper reports the challenges of designers developing an SMS service for and with a vulnerable user group, homeless people, and their supporting agencies in London. It also describes the deployed methods in the design process. Co-design activities were performed with homeless people in and outside their living environments such as streets, a hostel and a day centre. The first author engaged with them as an insider (volunteer) or an outsider (designer or facilitator). This paper highlights how co-design activities in the inside and outside environments of a vulnerable user group affect the engagement of this group. Furthermore, the paper discusses ethical issues and the different roles (insider-outsider, volunteer-professional) designers are confronted with in this particular situation. We finally recommend designers to allow participants to share ownership of the project and carefully consider their capabilities of engagement.

KEYWORDS: Service design; Co-design; Participatory design; Vulnerable user group; Homeless people.

1 Introduction: designing a service with a vulnerable and marginalised user group

This paper reports the insights gained from co-designing an SMS service for and with homeless people in London. It answers and discusses the question how designers can approach a co-design project with vulnerable and difficult to engage people.

Homeless people are often qualified as a vulnerable population because of problems and circumstances they are experiencing. Homelessness stems from innate problems of individuals such as mental illnesses and substance misuses. Also, situational characteristics such as immigration issues and relationship brake downs cause homelessness (Ensign, 2003). Homeless persons that are stigmatised refuse to seek support from their personal contacts and institutional supports. They are inclined to highly move around in the city (Jonsen at al., 2007). Due to these problems it is hard to reach homeless people to provide them the right support and it is difficult to involve them in public participation (Brackertz et al., 2005).

During the project, we identified different environments where homeless people inhabit, which are day centres, homeless hostels and streets. Day centres are building based services, open from morning to early afternoon. They provide the services including fulfilling basic needs such as feeding people, providing showers, laundry facilities as well as training and supports. Homeless hostels provide temporary bed space for the homeless. Homeless people spend significant time on streets. Soup runs, which serve food and refreshments that are targeted to feed the homeless on the streets, arrive at specific time and places. Each environment has their own politics that regulate the accessibility and behaviours of the homeless users. For example, homeless people are only allowed to access day centres or hostels when other institutions refer them. During the design process engagements with participants occurred both inside and outside of these environments.

Service design has emerged over the past decade. Different propositions of the term ‘service design’ are found in related disciplines such as management and design however, yet there is no agreement on its definition. In management

literature, services are often described as the counterpart of goods (products), which are the outcome to a manufacturing process. Vargo and Lusch (2004) introduce a concept ‘everything is service’, which defines service as a process of involving the consumer as a co-producer to maximize customizes offerings. Management researchers have advanced knowledge about how organizations manage services but less understanding on how to design services (Kimbell 2011). Design discipline understands that service design shares commonalities with Interaction Design as they focus on experience, a time based medium and system thinking. However, designing services relates to a broader area including business and strategy, partially including interactive artefacts (King 2011 and Holmild 2007). Service Design also has a strong relation to Participatory Design (Holmild 2009). Participatory design approaches are developed and applied to involve the participants in the design process, implying that the design practice would incorporate the capabilities, dreams and wishes of the intended users (Sleeswijk Visser et al. 2005). According to the categorization of co-creation and co-design practices by Mattelmäki and Sleeswijk Visser (2011), our approach to the user group is positioned in the most complex type of engagement in which diverse stakeholders, not just users are involved in a collaborative process. However, when working with vulnerable and marginalised people, such as homeless people, extra attention should be paid to engage with them (Patton, 1999).

Developers and practitioners of Participatory Rural Appraisal techniques developed for the understanding of poor people living in rural areas distinguish the ‘outsiders’ from the ‘insiders’ and emphasize the importance of an open-minded attitude, the use of local materials and the empowerment of the ‘insiders’ (Chambers, 1997). From the evaluation of design projects for poor people in rural areas we also know that we need to adjust our techniques deployed in participatory design, e.g. due to language barriers, educational and cultural differences (van Boeijen and Stappers, 2011). However, our user group, the homeless in London, have different characteristics that need a specific approach. This paper highlights the considerations involved in the engagement of this hard-to-reach user group in the design process.

In section 2 the case, Homeless SMS project will be introduced. Section 3 will describe how relationships with homeless participants were established. In section 4 the three steps of prototyping the SMS service and the involved challenges will be described. Lastly, we will discuss the lessons learned from this case and end with suggestions for designers who will co-design in similar situations.

2 Case: Homeless SMS

This project aimed to create a mobile SMS service, which transfers relevant information to the homeless users and facilitates supportive social interactions within the involved users such as the homeless and former homeless and the general public. From our research, 70% of homeless people in London own a simple type of mobile phone. The service uses Twitter to mediate communication between involved users and to send SMS to the mobile phones of homeless users.

To execute participatory design with the homeless, we spent considerable efforts to establish the relationships with potential participants through contextual research and a design workshop. After that, iterative service prototyping was performed with the involvement of more than 25 homeless participants and a homeless day centre. Figure 1 shows the prototypes of the service. As a result, a service plan was consolidated.

Figure 1 The prototypes of the service, including instructions for users.

3 Project approach part 1: Establish the relationships

As an outsider, when starting the project, designers do not have sufficient knowledge and empathy with the user group. Therefore, the author spent significant time and efforts to establish the relationship with the homeless, before engaging with them to perform co-design activities. The contextual research, taking six weeks, began with the designers engaging in the environment where potential participants were hanging around. The research allowed us to understand the unique way of life of homeless people and to feel comfortable to approach them. Also, as the research subjects got along with the 'outsiders', it helped potential participants build a trust with the outsiders. The activities were rolled out in two steps: first, designers became insiders by volunteering and at the same time by doing observations and secondly, participants left their environments and were invited to a new setting (a design workshop), which was arranged by the designers.

3.1 Becoming insiders: volunteering and immersive observation

The first contact with homeless people was made by the designer's engagement in volunteering at a *homeless hostel*. When doing the volunteering, permission from the authority to conduct research with their guests was needed. At the same time, the designer-volunteer was required to follow the list of rules regarding engaging with their service users; volunteers are not allowed to contact guests at the outside of the building, to exchange personal contacts and to provide any material supports without permission of authority. Later, these rules often conflicted the way the designers wished to conduct the co-design practices with the participants, who are the service users as well. Another way to become an insider was to engage in an observation of rough sleepers, which allowed the designer to immerse into the environment of *streets*. Several full days were spent with the subject sleeping rough, from early morning till late night when they went to sleep.

The engagements of becoming insiders provided valuable benefits: the project team gained on-going contacts with homeless people, who participated in the project. Also, the designer was able to develop an empathy with them. Homeless people trusted the designer, as they perceived him as a volunteer as well, which

was the prerequisite quality for participating in design process. However, this way of engagement required the designer substantial time to be in the inside and the accompanying risk of burnout because of confronting the difficult lives and circumstances that many participants experienced.

3.2 Inviting participants to the outside: a workshop

Figure 2 A scene of the co-creation session.

After the contextual research phase, the project team conducted a co-creation session in order to get insights in developing the service (see Figure 2). The session recruited eight people who represented the stakeholders of the service concepts; two homeless, two former homeless, one volunteer and one outreach worker were selected and invited to the workshop. They all have substantial experience involved in homelessness yet hold different perspectives. During the session, the service concept was presented with storyboards. Participants understood the idea and freely gave their opinions on it. Furthermore, they performed a design activity to ideate a mobile tool to communicate with and that supports homeless people: the participants were excited in ideating possible solutions beyond informing problems.

Inviting participants to an intended setting outside of their regular environment and stirring their imagination allowed the participants to feel owner of the project. This secured the participants' interest on the project and motivated them to further engage with the project. However, performing the workshop with the homeless participants at the outside of ordinary environments infringed the regulations given by the service provider, which permission the designer needed.

4 Project approach part 2: Prototyping the service

Prototyping played a pivotal role in bringing the concept to life. The service-system was incrementally evolved through three iterations of prototyping. The prototypes did not attempt to actualise all aspects of the design. Rather, they were manifestations of selected ideas and manageable interventions to the reality of participants. Each prototype contributed to important design decisions in terms of choosing a technical platform, identifying core functionality and communicating with users and service providers. Three iterations were laid out, which differed in their purposes and user groups involved. They are named (1) Discovery of limitations (of initial concept), (2) Co-creation (of the service concept) and (3) Implementation (of the service design).

4.1 Discovery of limitations

The first prototype tested the initial service concept that enabled the homeless to find local homeless services and to get regular updates of useful information. The both functionalities were delivered to the users via SMS. To conduct the prototype we recruited 11 homeless people both at the hostel and the streets in central London. They agreed on using the service and provided feedback after a couple of days but they were not offered any incentives. However, we could not achieve the results we intended, because only 2 out of 11 recruited participants kept their engagement and gave us feedback. Despite of this failure, we learnt important lessons to secure the engagement with the participants: first, designers need to choose the right environment to recruit homeless participants. The people recruited from the street were not reachable to get feedback. Many homeless people on the streets have a regular area in which they stay however, during a day, they are always moving and hard to locate. The participants at the hostels were easily revisited as they were based at the shelter throughout the test. This suggested that the streets are not an appropriate place to recruit participants to secure their engagement to the pilot service. Secondly, we experienced the need to encourage the participants' engagement to use the prototype. Taking the attention of homeless people to explain the idea of it and the benefits of the participation was very difficult. Many homeless people directly refused participation when they heard about the prototype service.

4.2 Co-creation

The second iteration aimed to test the main functionalities of the service-system and to see how it could be accommodated by the social networking service Twitter. The prototype used the Twitter's mobile service enabling, users to operate most of its features by SMS.

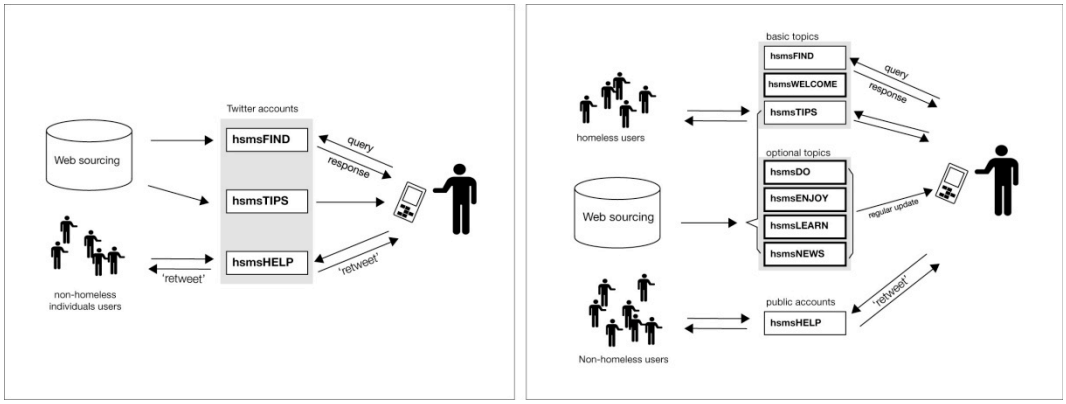

Figure 3 Second prototype of the service (left, initial status; right, final status)

Figure 3, left shows the initial communication structure of the prototype and right shows the final result of this phase. It started with three basic Twitter accounts including @hsmsFIND, @hsmsTIPS and @hsmsHELP, which accommodate different functionalities. After prototyping, more accounts were created in order to deliver specific information to the users and enable them to select relevant information that fitted their interests and circumstances. This included the accounts delivered useful information such as weather forecasts and opportunities on education and training.

Based on the lessons learned from the first iteration, we found a need to continue the participation with the 'engaged user group', asking for their opinion about the design decisions. To do so, six homeless persons were selected. All of them were recruited from the homeless hostel and three of them already participated in the design workshop. They agreed to participate in the project at least for one month and to provide feedback through individual and group sessions. In return, we offered them a prepaid SIM card or a voucher of £10 mobile phone credit. This enabled them to send text messages for the following month in order to fully make use of the prototyped service. It also provided an extra 100 minutes call time as a bonus.

During the prototyping, they were invited in individual and user group sessions. Designers and participants discussed the detailed features of the messaging service. This included the information that should be included in a single message, the type of contents of the message that would be useful to users and the geographic boundary that one user would be willing to visit when receiving an opportunity in the city.

4.3 Implementation

The service concept consolidated in the Co-creation phase was implemented in a homeless day centre in central London. The results of the previous prototype helped to convince the organisation and created the partnership. The prototype aimed to test the consolidated service concept with a larger number of users and to figure out how the existing service providers could be involved in the communication channel. To do this, a dedicated Twitter account was set up, which provided a direct communication channel between the organisation and its clients. In total 18 participants joined the service, using the day centre services. In order to encourage clients to sign up to the service, a participant who successfully registered to the service was given a lunch voucher as a reward, with a value of £2. This incentive was effective and powerful, raising their attention, which provided the opportunity to explain the details of the service further.

5 Conclusions & Discussion

This paper documents the ways designers engage with homeless participants in order to co-design a service. We highlight lessons learned and discuss possibilities for designers for co-design with and for vulnerable user groups.

1) Designers need to be aware about the *extent of engagement* with the participation of homeless, both inside and outside their environments.

According to the purpose of intended activities, the designers needed to decide whether they wanted to establish the participation with homeless people inside of their familiar environments or bring them outside their existing settings (see Table 1). Practitioners of Action Research in a health care sector have reported this tension caused by their roles as both an insider (participant/ volunteer in this

project) and an outsider (researcher or facilitator/ professional designer in this project) of the organisations (Williamson & Prosser, 2002 and Coghlan, 2001). Titchen and Binnie (1993) established practiced 'double-act' as researcher and change agent in order to overcome similar difficulties.

Table 1 The environments of the participation with homeless people.

Activities	The participations' environments
Volunteering and immersive observation	Inside (streets and hostel)
Workshop	Outside
Co-creation	Outside
Implementation	Inside (day centre)

Each environment has its own authority and culture to regulate the way homeless people behave. When a designer engages with participants under a certain setting, they need to follow their rules, such as the time and place they are allowed to engage with them. However, being under one's authority strongly restricts the freedom of co-designing activities. For instance, during the Co-creation phase the participants were invited to the setup and environment that suited the purpose of the workshop. Besides, the authority might not appreciate the agenda of the service. To do this, the designer needs to carefully communicate with the manager of the relevant service providers to gain permission of engagement outside of their supervision. This means that the designer takes higher responsibility of the participation, especially when taking into account the vulnerabilities of the user group.

2) Designers will be confronted with *ethical issues* related to the participation with the homeless.

Bringing the homeless participants into the design process causes critical ethical issues to designers. First, designers need to play different roles, which are often conflicting, and sometimes not possible to make transparent to the user group and involved parties. When engaging with the participants inside the service provider, the designer's role was a volunteer, who helps the service users by performing the given task. However, as a designer, he was intended to gain

access to the user group and build on trust. The relationship with designers and the homeless people was personal and their attachment could be developed along the time of engagement. However, when designers perform design activities with the participants, the relationship is more hierarchical. Especially, the first author established a friendly relationship with the engaged user group through regular volunteering at the hostel, and this seemed to encourage them to participate in the design activities. This brought a 'guilty feeling' to the designer, because the personal relationship is being instrumented for the design project. Furthermore, the participants cannot avoid uncertainties during the design process, which is potentially harmful to vulnerable people. When designers ask the homeless for consent of engagement in co-design activities, the outcome is not clear in advance, which is inherent in design processes. These vulnerable participants have less capacity to handle mistakes caused by prototypes. Finally, the contribution of participants is difficult to award appropriately. Providing incentives to participants can encourage them to engage however, this does not sufficiently cover their time and efforts.

3) Possibilities for the designers

- Allow participants to have *ownership* of the project.

Enabling the participants to have ownership of the project would be a possible solution to address the problems of rewarding and coping with the uncertainties of participation. Arnstein (1969) defines the level of citizen participation in accordance to the extent of citizens' power in determining the end product. She separates 'tokensim' from the genuine participation, which allow participants to have a voice but they do not have power to decide. This implies that co-designing practice could go beyond allowing participants giving their opinion and aims to enable users perceive that their engagements are the main part of the product itself. Participants need to understand their value in the design development, which make them more proactive in their participation. Involving users in workshops that encourage them ideating possible solutions is a first step to stimulate this sense of ownership.

- Consider participants' *capacities* when engaging them in a design project.

Users who participate in a co-design process are asked to adapt their behaviour, for instance when testing a prototype. This means that designing is an intervention in the participants' real lives. Designers may under estimate this, because they consider prototypes as a representation of a concept, that is not part of their real lives yet. Therefore, when rolling out co-design practice, designers should carefully consider each participant's capacities of coping with any changes that the design intervention would bring to them. Here, the participants' capacities imply not only their limitations but also capabilities. Designers need to have eyes to discover what potentials the participants have and transform them to the appropriate design activities.

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